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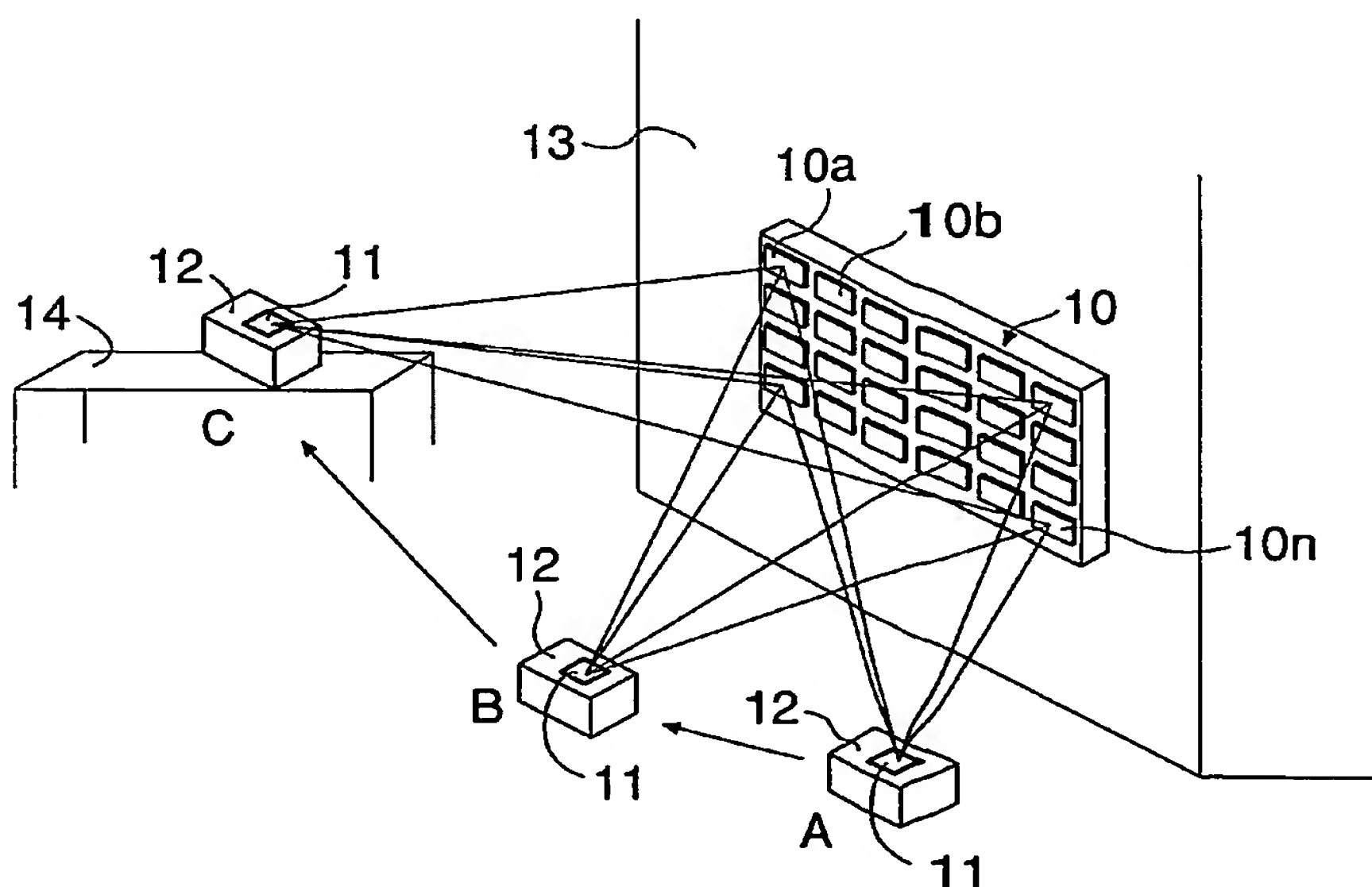
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(54) Title: METHOD OF AND APPARATUS FOR LONG DISTANCE READING OF PASSIVE TAGS IN RADIO FREQUENCY IDENTIFICATION SYSTEMS



(57) Abstract: A method and an apparatus for reading passive tags (11) affixed to objects (12) to be identified and tracked by a radio frequency identification system are disclosed. An interrogating station sends radio-frequency inquiry signals towards the passive tags (11) through an antenna array (10) and receives the response signals from the tags (11) through the same array (10). Electronic circuitry (20-25) for processing such response signals comprises a phase conjugator (23) submitting each received signal to phase conjugation, and the phase-conjugated signals are back transmitted to the passive tags (11). Retrodirectivity of the antenna array obtained through the phase conjugation allows a precise object identification and tracking also at relatively long distances.

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